S900 Service Manual

DOC #: 253-0059-0 V1.0

Version 1.01

--

Contents

1. INTRODUCTION 1-1

1.1 GENERAL NOTES FOR SERVICING 1-1
1.2 GENERAL DESCRIPTION 1-2
1.3 SPECIFICATIONS 1-2

2. UNPACKING, INSTALLATION, AND TRANSPORTATION 2-1

2.1 PRECAUTIONS OF INSTALLATION 2-1
2.2 UNPACKING PROCEDURE 2-1
2.3 INSTALLATION 2-3
2.3.1 UNLOCKING THE SCAN UNIT 2-3
2.3.2 CONNECTING THE IEEE 1394 CABLE 2-4
2.3.3 CONNECTING THE ADF CABLE (OPTIONAL) 2-4
2.3.4 SETTING UP THE OPTIONAL ADF (AUTO DOCUMENT FEEDER) 2-5
2.3.5 CONNECTING THE POWER AND TURNING ON THE MACHINE 2-5
2.4 PLACING THE ORIGINAL 2-6
2.4.1 PLACING YOUR DOCUMENT(S) ON THE GLASS 2-6
2.4.2 PLACING DOCUMENT(S) IN THE ADF 2-7
2.4.2.1 notice on using the adf 2-7
2.4.2.2 placing document(s) in the adf 2-8
2.5 TRANSPORTATION 2-8

3. PARTS IDENTIFICATION 3-1

3.1 EXTERNAL VIEW 3-1
3.1.1 FRONT VIEW 3-1
3.1.2 REAR VIEW 3-2

4. THEORY OF OPERATION 4-1

4.1 INTRODUCTION 4-1
4.1 INTRODUCTION 4-1
4.2 MAIN CONTROL UNIT 4-2
4.2.1 SYSTEM DIAGRAM 4-2
4.2.2 MAIN CONTROL CIRCUIT 4-3
4.2.3 VIDEO CIRCUIT: 4-4
4.2.4 PANEL AND LCD MODULE CIRCUIT 4-6
4.2.5 SENSOR INPUT 4-7
4.2.6 SUB POWER SUPPLY CIRCUIT 4-8
4.2.7 POWER SUPPLY 4-9

5. TROUBLESHOOTING 5-1

5.1 TROUBLESHOOTING FLOWCHART 5-2
5.1.1 POWER ON TO S900 READY 5-2
5.1.2 COPY OPERATION 5-3
5.1.3 CONTORL PANEL OPERATION 5-4
5.2 TABLES 5-5
5.2.1 LCD DOES NOT DISPLAY 5-6
5.2.2 PRINTER DOES NOT REACT 5-6
5.2.3 SCANNING IS NOT PERFORMED 5-7
5.2.4 PRINTER DOES NOT PRINT 5-7
5.2.5 IMAGE UNCLEAR 5-8
5.2.6 NOISE GENERATED 5-8
5.2.7 LCD DOES NOT SHOW MESSAGE AFTER COMMAND 5-9
5.2.8 S900 IS NOT CONNECTED TO THE NETWORK 5-10
5.2.9 ERROR CODES IN LCD 5-11

5.3 CLEARING THE PAPER JAM 5-13
6. PREVENTIVE MAINTENANCE 6-1
6.1 CLEANING THE DOCUMENT GLASS 6-1
7. DISASSEMBLY 7-1
7.1 SERVICE TOOLS 7-1
7.2 LUBRICANTS 7-2
7.2.1 MECHANICAL UNIT LUBRICATION 7-2
7.3 PROCEDURE FOR DISASSEMBLY AND REASSEMBLY 7-4
7.3.1 NOTES ON DISASSEMBLY 7-4
7.3.2 DOCUMENT COVER 7-4
7.3.3 CONTROL PANEL 7-5
7.3.4 UPPER HOUSING 7-6
7.3.5 DOCUMENT COVER SENSOR PCBA 7-7
7.3.6 PAPER SENSOR PCBA 7-8
7.3.7 MAIN CONTROL BOARD ASSEMBLY 7-9
7.3.8 MOTOR BELT 7-10
7.3.9 OPTICAL CHASSIS 7-11
7.3.10 CCFL INVERTER PCBA 7-13
7.3.11 LAMP ASSEMBLY 7-14
7.3.12 MOTOR UNIT 7-15
8. PARTS 8-1
8.1 SPARE PARTS LIST 8-1

1. INTRODUCTION

1.1 General Notes for Servicing
1.2 General Description
1.3 Specifications

This manual is intended to be used by the maintenance engineers. It describes areas to be maintained, the detailed installation, and the component replacement procedures as well as the main trouble shooting guides.

Please take your time to read this manual thoroughly to obtain comprehensive knowledge about the S900 before serving the unit.

1.1 GENERAL NOTES FOR SERVICING

(1) Before trying to disassemble the S900, make sure the power supply cord of the S900 is disconnected from the power outlet. Under any circumstance, do not remove from or install the PWBs or connectors onto the S900 with the power switch turned ON.

(2) Use caution not to drop small parts or screws inside the unit when disassembling and reassembling. If left inside, they might cause the malfunction of the unit.

(3) Do not pull the connector cable when disconnecting it. Hold the connector.

(4) When carrying PWBs or the scanning head unit, put it in an anti-static bag.

(5) Keep the document table glass surface always clean. If contaminated, use a dry clean cloth for cleaning.

(6) Use caution not to injure your fingers or hands when disassembling or reassembling the unit.

1.2 GENERAL DESCRIPTION

The S900 provide you a fast and affordable access to color digital copying by simply connecting the product to a color laser printer. The new way to make digital copies is cost-saving and it produces a dramatic high-quality copy result compared to regular analog copier. Plus, the S900 is also a high-quality scanner when it is connected to a computer through an USB cable.

1.3 SPECIFICATIONS

General Specifications	
Items	**Specifications**
Model Type	A3, Digital ScanCopier
System Features	■ Up to A3 ■ Local copy executed by connecting to a OKI C9300 or C9500 color printer
Output Quality	600 dpi, 24-bit color
Paper Size	Up to A3
LCD	240*64 dot Graphic display
External Connection	1. IEEE 1394 (to connect to printer to make copies) 2. USB 2.0 (to connect to PC to scan) 3. RJ-45 (Network connection, to update printer profile, and firmware) 4. ADF port (to connect to auto document feeder to copy or scan multi-page document)
CPU	64 MIPS CPU
Memory Size	System: 128MB, Image buffer: 64 MB
ADF Capacity	50 pages
ADF Document Weight/Thickness	14 – 28 lbs /0.002” – 0.006”
ADF Paper Feed	Face Up
Flatbed Paper Feed	Face Down
Power Requirement	24V DC, 2A external power adapter
Power Consumption	<36 w (operating) <24W (standby) <18W (power saving)
Humidity	20% to 80%
Environment	
Operation Temperature	10°C to 35°C
Storage Temperature	-10°C to 50°C
Dimension	589x502x318(mm) (with ADF)
Weight	11.4 kgs (with ADF)
MTBF	5,000 hours
MTTR	30 min
Life of Lamp	25,000 hours
Scanner Life	200,000 (flatbed) scans, or 5 years

Copy Specification		
Printer Language	PCL	
Connector Interface	IEEE 1394 Cable	
Copy Area	297*431 mm	
Multiple Copies	Up to 99	
Copy Mode	Speed, FineText, Photo	
Enlarge / Reduce	Whole Page (93%) 25%~400% in 1% increment/decrement Pre-set Scales	
Copy Features	Paper Size Auto Detection (A4 Landscape, A4 Portrait, A3) Density Control Copy Count up to 99	
Media Type	Plain Paper, Ultra-heavy, Transparency	

2. UNPACKING, INSTALLATION, AND TRANSPORTATION

2.1 Precautions of Installation
2.2 Unpacking Procedure
2.3 Installation
2.4 Placing the Original
2.5 Transportation

2.1 PRECAUTIONS OF INSTALLATION

Pay attention to the following matters before unpacking and installation.

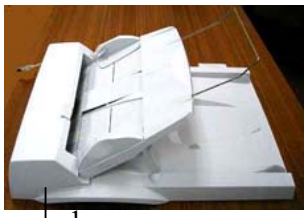
- Do not install in a place where vibration may occur.
- Keep the S900 out of direct sunlight. Do not install near a heat source.
- Do not place the S900 around materials which shut off the circulation of air.
- Do not install in a humid or dusty place.
- Use care not to scratch the glass surface of the S900 or the document holding pad with a clip or staple.
- Do not use the wall socket with connecting devices which may generate noise, for example, air-conditioner, etc.
- Only use the DC adapter (model name ADP-50ZB made by Delta Electronics, Inc.) included with the machine. Using other DC adapters may damage the machine and void the warranty.
- Use a suitable DC power source.
- Place the S900 on a level surface.

2.2 UNPACKING PROCEDURE

Unpack the S900 according to the following procedure.

- Remove the packing material.
- Remove the S900 from the shipping container.
- Remove the S900 from the PVC bag.
- Check the items against the following illustration.
- For any missing items, please contact the nearest dealer or distributor.

Note: Keep all the packing material in case you may need to return the S900.



1

2

3 4

5 6

7

8

1. Auto Document Feeder (optional)
2. S900 main unit
3. USB cable (for computer connection)
4. CD (service tool)
5. IEEE1394 cable (for printer connection)
6. Power adapter
7. Cross cable
8. Power Cord (US, UK, Europe, Australia)

2.3 INSTALLATION

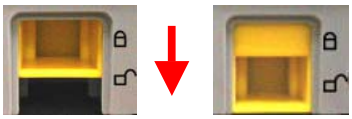
2.3.1 UNLOCKING THE SCAN UNIT

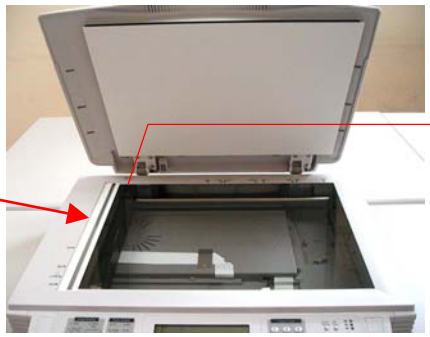
The scan unit is locked during transport to protect scanning mechanism from being damaged. ***Be sure to unlock the scan unit before using the machine.***

1). Locate the lock switch at the left side of the machine.

2). Push the lock switch down to unlock the scan unit.

Locked Unlocked





The scan unit at this position before locking

Note:

If you need to move your S900 for repair or any other reason, be sure to lock your S900 before moving. To lock your S900, please do the following,

1. Turn off your S900.
2. If the scanning head is not located at the front of the glass, turn the S900 on to return the scanning head to the front of the glass. After the scanning head is returned to the home position, turn the power switch off.
3. Move the lock switch to the "Locked Position".

2.3.2 CONNECTING THE IEEE 1394 CABLE

1. Connect one end of the IEEE 1394 cable (included) to your printer.

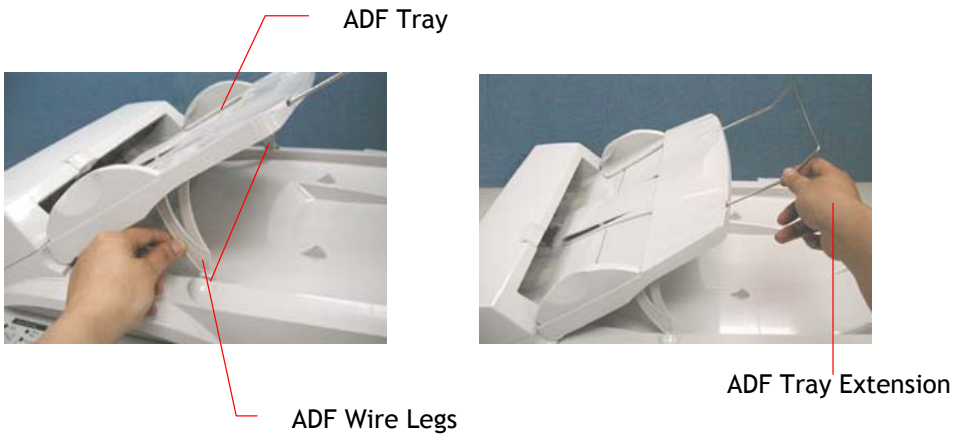
2. Connect the other end to the printer port of your S900.

2.3.3 CONNECTING THE ADF CABLE (OPTIONAL)

Connect the ADF cable which is attached to the document cover to the ADF port.

2.3.4 SETTING UP THE OPTIONAL ADF (AUTO DOCUMENT FEEDER)

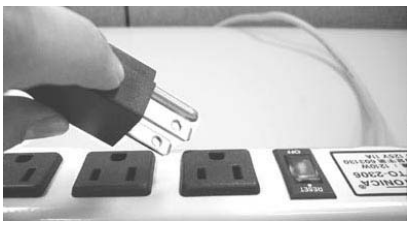
1. Raise the ADF Tray to about 45 degrees.
2. Pull down the wire leg beneath the ADF Tray.
3. Pull out the ADF Tray extension to its full length.



2.3.5 CONNECTING THE POWER AND TURNING ON THE MACHINE

1. Press the power switch to the "0" position to turn off your S900.
2. Connect the small end of the power cable to the power port of your S900.

3. Connect the other end to appropriate power outlet.



4. Press the power switch to the "I" position to turn on your S900. After showing the warming up message, the LCD display prompts the Copy ready status.

2.4 PLACING THE ORIGINAL

You can load the paper from the S900 either in the ADF (Automatic Document Feeder) or on the glass. If you need to copy multiple pages, please load your papers in the ADF. The ADF can hold up to 50 pages at one time. If you need to send pages from books, newspaper clippings, paper with wrinkles or curls, please place your paper on the glass.

2.4.1 PLACING YOUR DOCUMENT(S) ON THE GLASS

1. Open document(s) cover to reveal the glass.
2. Place your document(s) with the text **FACE DOWN** on the glass and align the document(s) in the home position as shown in below.

3. Close the document cover.

2.4.2 PLACING DOCUMENT(S) IN THE ADF

2.4.2.1 NOTICE ON USING THE ADF

Before using the ADF, please make sure that your paper meets the following specifications:

- Document(s) can range in size from 4.5 by 5.5 inches to 11.69 by 16.54 inches (A3).
- Document(s) can range in weight from 14 to 28 lbs (0.002” to 0.006”).
- Document(s) should be square or rectangular and in good condition (not fragile or worn).
- Document(s) should be free of curl, wrinkle, tears, wet ink, or punch holes.
- Document(s) should be free of staples, paper clips, paper sticky notes.

2.4.2.2 PLACING DOCUMENT(S) IN THE ADF

1. Make sure your document is free of staples, paper clips and is not torn out.

2. If you have multiple pages, fan your document(s) to avoid occasional paper jam. The ADF can hold up to 50 pages at one time.

3. Place your document(s) with the text **FACE UP** in the ADF and make sure that the top of the pages is fed in first.

4. Adjust the Paper Guides to center the document(s) in the ADF.

2.5 TRANSPORTATION

To move the S900 from where it is installed, for repair or any other reason, make sure to observe the following conditions:

(1) Turn off the power of the S900.

If the scanning head is located at a place other than front of the glass, turn the S900 on to return the scanning head to the front of the glass. After the scanning head is returned to the home position, turn the power supply off.

(2) Move the lock switch to the "locked position".

(3) Remove the power and printer cables.

(4) Put the S900 in the packing case with the packing material.

3. PARTS IDENTIFICATION

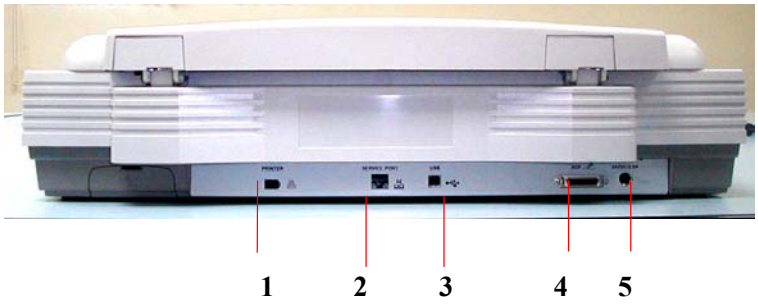
3.1 External View

3.1 EXTERNAL VIEW

3.1.1 FRONT VIEW

1. Document Cover
2. Control Panel

3.1.2 REAR VIEW



1. Printer Port
2. Service Port
3. USB Port
4. ADF Port
5. Power Jack

4. THEORY OF OPERATION

4.1 INTRODUCTION
4.2 MAIN CONTROL UNIT

4.1 INTRODUCTION

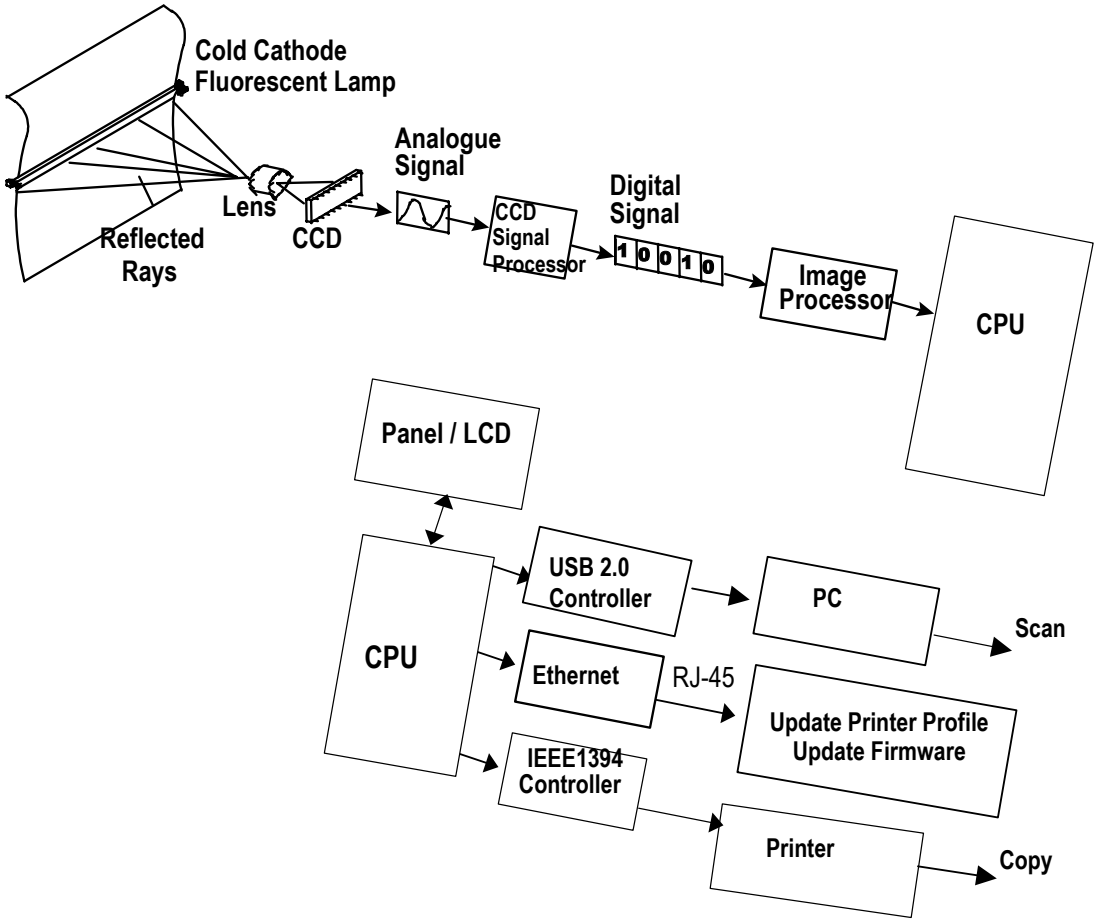


Figure 5.1 Theory of Operation

The reflected rays of the your original as shown in the above Figure 5.1 pass through the lens and creates an image on the CCD (Charged Coupled Device). Then, according to the different light intensity perceived by the CCD, the CCD will transfer these data into a series of analog signals to the CCD signal processor, where the signals are turned into digital signals. These digital signals flow to the image processor and store into the CPU (Central Processing Unit). Through the commands from the Control Panel, the digital signals may goes to the IEEE 1394 Controller to printer to make copies, or goes to the USB controller to PC to make scan.

4.2 MAIN CONTROL UNIT

4.2.1 SYSTEM DIAGRAM

Figure 5.2 shows the system block diagram.

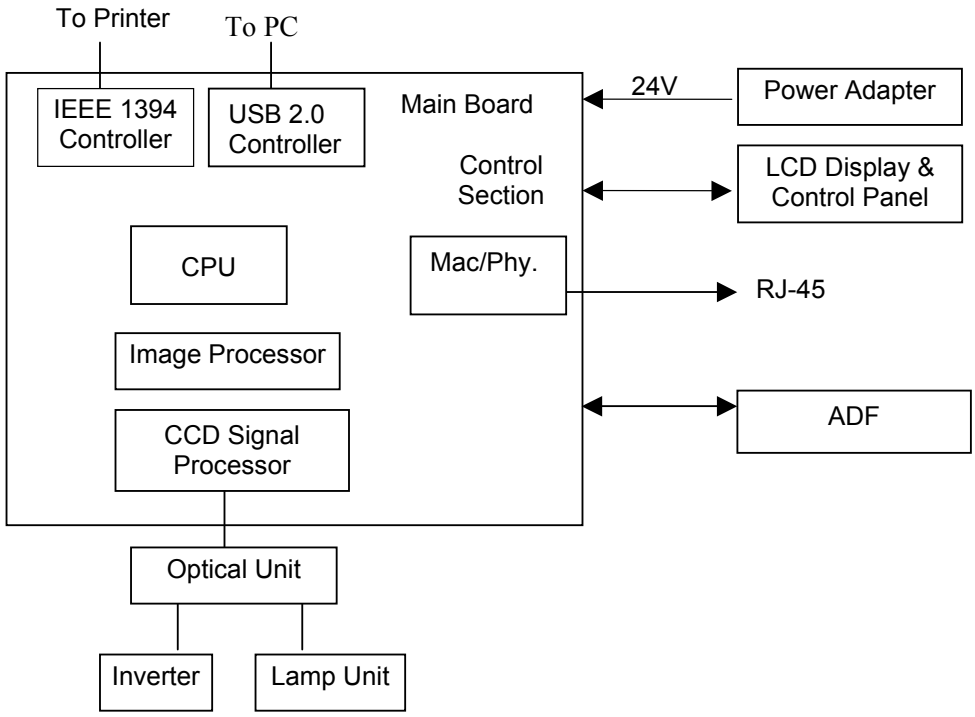


Figure 5.2 System block diagram

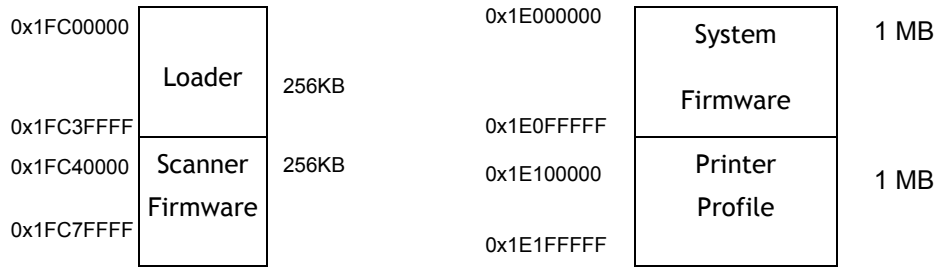
4.2.2 MAIN CONTROL CIRCUIT

This S900 is controlled by MIPS CPU. The CPU is configured with a 2.5MB external ROM, a 128MB external RAM working area.

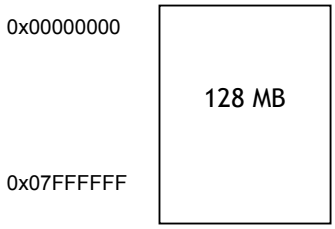
I/O Address Maps:

- ROM Area:

Flash Layout



- External RAM Working Area:



4.2.3 VIDEO CIRCUIT:

The video circuit of this S900 includes:

1. CCD driving circuit and motor control signal
2. CCD signal processing circuit.

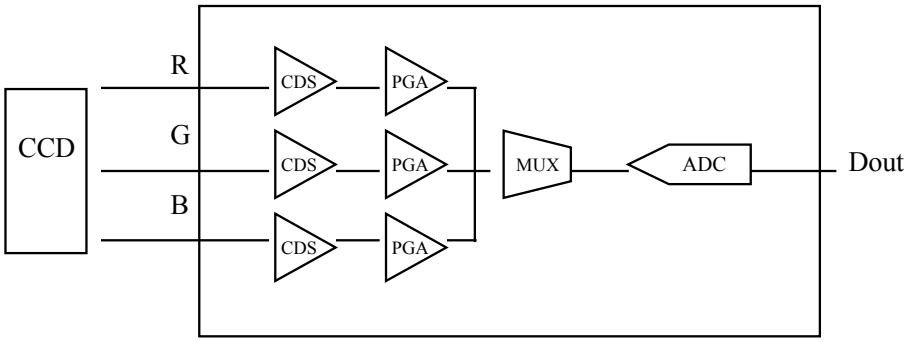
1. CCD Driving Circuit & Motor Control Signal

The CCD driving circuit is used to generate correct signals to the CCD, so that the CCD may generate the correct image data.

Signals for CCD:
Pin Assignment for CCD cable

Pin No.	Name	Function
1	H24G	Motor Ground
2	H24G	Motor Ground
3	M_VREF	Motor Reference
4	INPOWER	Inverter Power
5	INPOWER	Inverter Power
6	CCDVCC	CCD Power Supply
7	SH-	Shift Gate
8	/HMSEN	Home Sensor
9	GND	Digital Ground
10	PH2-	Motor Phase One
11	PH1-	Motor Phase One
12	GND	Digital Ground
13	CLAMP	CCD Clamp Gate
14	RS-	CCD Reset Gate
15	B/W_SW	CCD Color and B/W Switch
16	CCDPOWER	CCD Power Supply
17	VOR	CCD Red Channel Output Signal
18	AGND	Analog Ground
19	VOG	CCD Green Channel Output Signal
20	AGND	Analog Ground
21	VOB	CCD Blue Channel Output Signal
22	AGND	Analog Ground
23	FMPH1	Motor Control Signal
24	FMPH2	Motor Control Signal
25	FMI01	Motor Control Signal
26	FMI02	Motor Control Signal
27	FMI11	Motor Control Signal
28	FMI12	Motor Control Signal
29	FMI21	Motor Control Signal
30	FMI22	Motor Control Signal
31	24VM	Motor Power Supply
32	H24G	Motor Ground

2. CCD signal processing circuit



CCD Signal Processor

The CCD signal processor includes all the necessary circuitry to perform three-channel conditioning and sampling. The signal chain consists of three-channel correlated double sampling (CDS) and programmable gain adjustment of the CCD output (PGA) is a 16 bit analog to digital connector (ADC) quantizes the analog signal.

* PGA: Programmable gain amplifier

4.2.4 PANEL AND LCD MODULE CIRCUIT

The circuit for Panel and LCD module controls the function of the entire module including the LCD Display, the push button on the Control Panel, and LED display.

Pin assignment of LCD module

Pin No.	Name	Function
1	D.G.	Digital Ground
2	KPDATA0	Data Bus bit 0
3	KPDATA1	Data Bus bit 1
4	D.G	Digital Ground
5	KPDATA2	Data Bus bit 2
6	KPDATA3	Data Bus bit 3
7	D.G.	Digital Ground
8	KPDATA4	Data Bus bit 4
9	KPDATA5	Data Bus bit 5
10	D.G.	Digital Ground
11	KPDATA6	Data Bus bit 6
12	KPDATA7	Data Bus bit 7
13	D.G.	Digital Ground
14	VCC	Digital Power Supply
15	VCC	Digital Power Supply
16	VCC	Digital Power Supply
17	VCC	Digital Power Supply
18	D.G.	Digital Ground
19	D.G.	Digital Ground
20	LCDA0	LCD Address 0
21	KPnECS	Panel Chip Select
22	KPnWE	Panel Write Enable
23	KPnOE	Panel Output Enable
24	/KBRD	Scan Key Read Chip Select
25	/KBWR	Scan key Write Chip Select
26	/LCDCS	LCD Module Chip Select
27	/LED0	LED Chip Select 0
28	/LED1	LED Chip Select 1
29	/LED2	LED Chip Select 2
30	D.G.	Digital Ground
31	- 8V	LCD Driver Power
32	/RESET	LCD Reset Signal

4.2.5 SENSOR INPUT

The sensor input includes home position sensor, hall effect sensor, and paper size sensor.

(1) Home position sensor

The home position of the carrier motor is detected by photo sensor. The photo transistor transmission to the photo sensor receiver circuit is shown below .

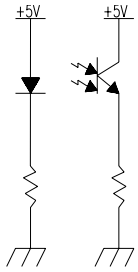


Figure 5.3 Home position sensor

The home position is detected when the carrier passes between the LED and the photo transistor.

(3) Hall effect sensor

The switch status of the document cover is detected by hall effect sensor.

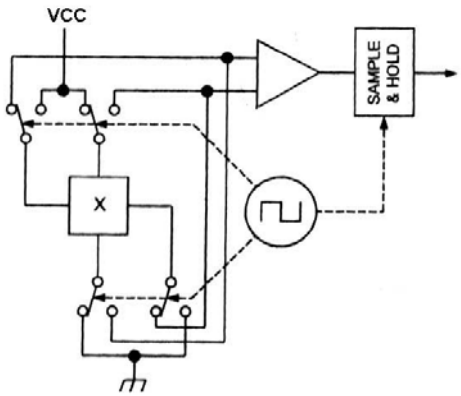


Figure 5.4 Hall effect sensor

(4) Paper size sensor

The paper size is detected by IR sensor. The IR transistor transmission to the IR sensor receiver circuit is shown below.

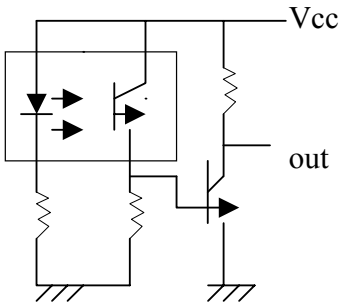
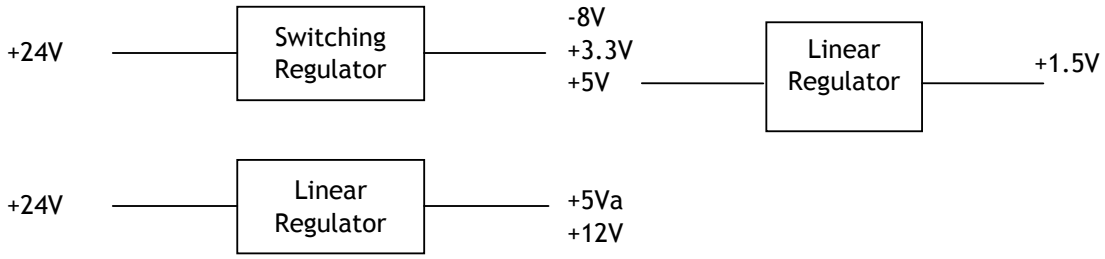


Figure 5.5 Paper size sensor

4.2.6 SUB POWER SUPPLY CIRCUIT

The sub power supply circuit is provided for the internal analog circuit. The circuit configuration is shown below:



The sub power supply is used for: CCD A/D, control panel, and logic circuits.

4.2.7 POWER SUPPLY

In this system, there is only one type of power supply. Please see Table 5.1 for details.

Table 5.1 Power Adapter

Type / Characteristic	Wall-mount
Input voltage range	100-240V
Input current(max.)	1.4A
Input frequency	50-60Hz
Max. in-rush current(@115VAC, cold start)	4A
Output voltage	+24Vdc
Min. load current	0.7A
Max. load current	1.4A
Total Power	33.6W

5. TROUBLESHOOTING

5.1 Troubleshooting Flowchart
5.2 Tables

This section is given to locate and resolve the causes of troubles so as the S900 is always in good working condition. The trouble modes, relevant units and maintenance methods are described below.

When a problem occurs, troubleshoot the problem according to the symptoms it shows.

Check the following first:

1. Is anything operating improperly?
2. Does the problem recur, or is it regular?

Figure 5.1 to Figure 5.3 show the troubleshooting flowcharts.

The causes and maintenance methods for each failure mode are described in Table 5.1 through 5.7

5.1 TROUBLESHOOTING FLOWCHART

5.1.1 POWER ON TO S900 READY

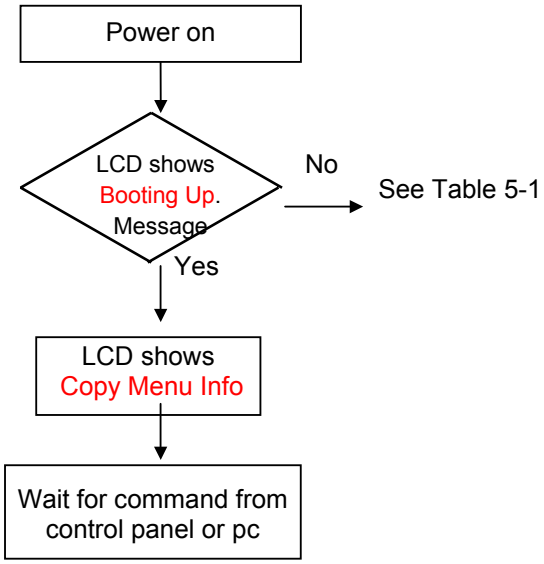


Figure 5.1 Power on to S900 ready

5.1.2 COPY OPERATION

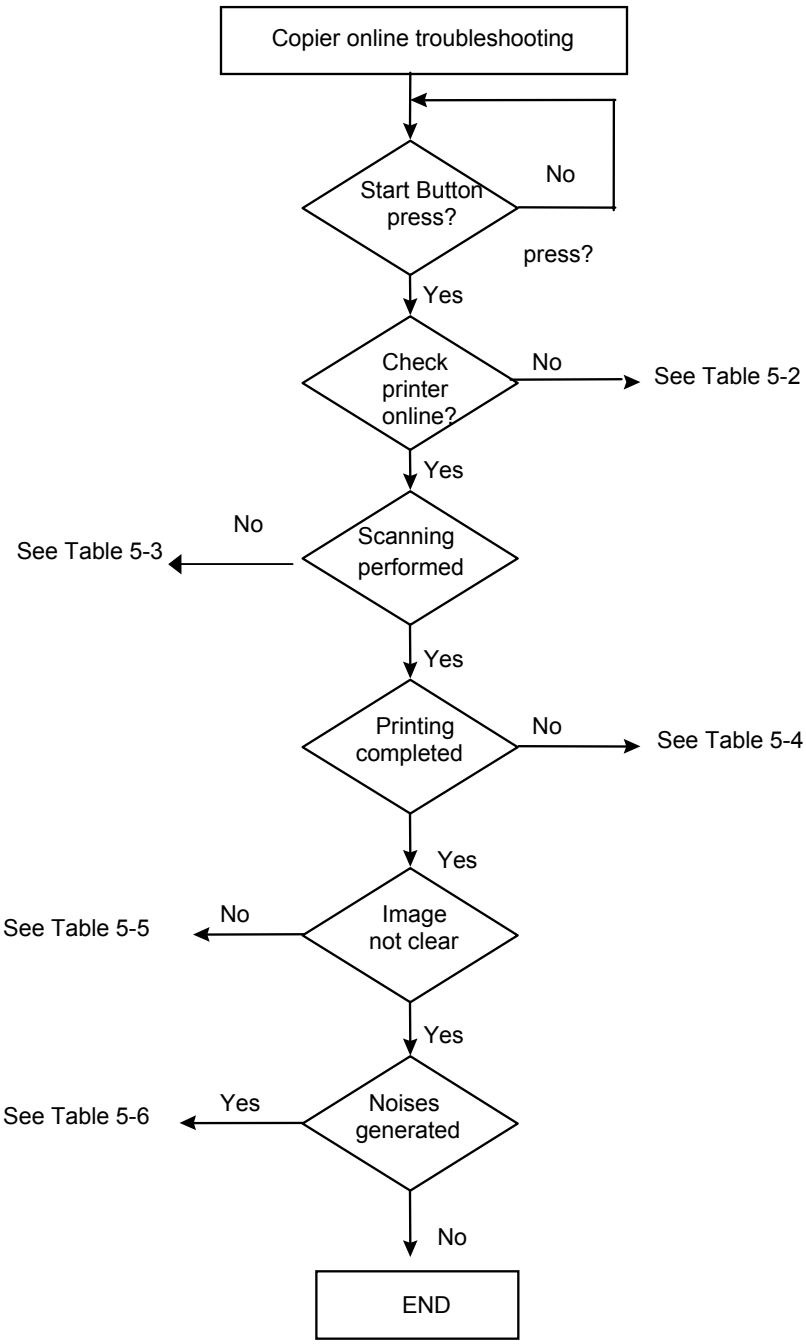


Figure 5.2 Copy operation flow chart

5.1.3 CONTORL PANEL OPERATION

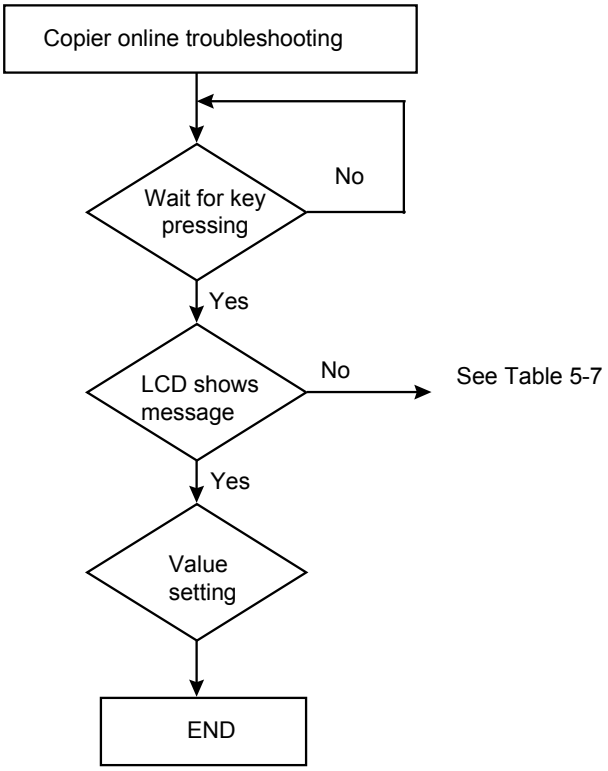


Figure 5.3 Control panel operation

5.2 TABLES

The following tables provide detailed troubleshooting information.

Table 5.1	The LCD does not display.
Table 5.2	Printer does not react.
Table 5.3	Optical path or hardware problem.
Table 5.4	Printer does not print.
Table 5.5	Image not clear.
Table 5.6	Noise generated.
Table 5.7	LCD does not show message after command.
Table 5.8	S900 is not connected to the network

5.2.1 LCD DOES NOT DISPLAY

Table 5.1

Cause	Relevant Unit	Check Method	Maintenance Method
Unplugged from outlet	None	Visual check	Insert the AC plug into the outlet
DC power unplugged from unit	None	Visual check	Insert the DC power adapter cable into the unit
AC voltage failure	None	AC outlet voltage check	None
Power adapter output voltage failure	Power unit	Output voltage (+24v) check	Replace the power unit
PCB failure	Main control PCB	Tester check (+24V, GND)	Remove the cause or replace the PCB
LCD module main board connection failure	LCD module main board	Visual check	Plug the connector and secure it firmly

5.2.2 PRINTER DOES NOT REACT

Table 5.2

Cause	Relevant Unit	Check Method	Maintenance Method
Printer cable failure	Printer cable	Visual check	Secure printer cable firmly or replace the printer cable
Printer link failure	Main PCB	Visual check	Replace the PCB
	Printer paper jam	Visual check	Remove paper
	Printer paper empty	Visual check	Insert paper
	Printer problem	Visual check	See printer manual
	Printer busy	Visual check	Wait till printer ready

5.2.3 SCANNING IS NOT PERFORMED

Table 5.3

Cause	Relevant Unit	Check Method	Maintenance Method
Scanner cable failure	Scanner cable	Visual check	Attach the scanner cable
Scanner link failure	Main PCB	Visual check	Replace the PCB
	Scan Module		Replace the Scan Module

5.2.4 PRINTER DOES NOT PRINT

Table 5-4

Cause	Relevant Unit	Check Method	Maintenance Method
Printer select wrong	Printer	Visual check	Make sure the printer information on the LCD display is correct.
Paper size incorrect	Paper tray	Visual check	Replace paper tray (The paper size being selected is inconsistent between the printer & the S900).
Printer problem		Visual check	Check printer

5.2.5 IMAGE UNCLEAR

Table 5-5

Cause	Relevant Unit	Check Method	Maintenance Method
Lamp too dark	Lamp	Visual check	Replace the lamp
Dirt on flatbed glass	Flatbed glass	Visual check	Clean the flatbed glass with isopropyl alcohol
Printer toner low	Printer toner	Visual check	Check printer toner or replace the toner
Printer memory not enough	Printer	Visual check	Add printer memory

5.2.6 NOISE GENERATED

Table 5-6

Cause	Relevant Unit	Check Method	Maintenance Method
Motor unit failure	Motor unit	Replace the motor unit	Replace the motor
Main control PCB failure	Main control PCB	Replace the main control PCB	Replace the main control PCB
Scanning module failure	Scanning module	Check scanning module shakiness	Replace the scanning module
Dirt on rail	None	Visual check	Clean the rail with oil

5.2.7 LCD DOES NOT SHOW MESSAGE AFTER COMMAND

Table 5-7

Cause	Maintenance method
LCD module cable failure	Attach the LCD module cable and secure it firmly
LCD problem	Replace the LCD module
Push button failure	Replace the LCD module

5.2.8 S900 IS NOT CONNECTED TO THE NETWORK

Table 5.8

Cause	Maintenance Method
RJ-45 connector is not plugged in	Plug the connector in
Network cable is damaged	Replace a good one

For your information, the assigned IP address for S900 and your computer should be:

S900's IP address	192.168.1.1
Subnet mask	255.255.255.0
Gateway	192.168.1.254
Your Computer's IP address	192.168.1.x (x: 2~253)
Subnet mask	255.255.255.0
Gateway	192.168.1.254

5.2.9 ERROR CODES IN LCD

LCD Message

LCD Message	Action
Copy function disables.	Please download the printer profile.
Check printer cable or status.	1. Check if the printer cable has been correctly connected. 2. Check if the printer is turned on. 3. Restart the S900 unit and your printer. 4. If the message still appears, contact your dealer.

Information Codes

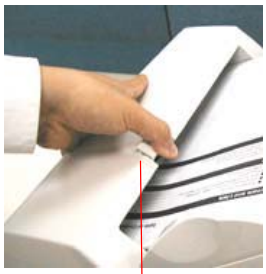
Info code	Meaning	Action
10001	SDRAM error	Restart your S900 unit. (Turn off and on again.) If the code still appears, contact your dealer.
10006	Home sensor error	Restart your S900 unit. If the code still appears, contact your dealer.
10007	Lamp error	Restart your S900 unit. If the code still appears, contact your dealer.
10009	Paper jam(ADF)	Open the ADF cover, remove the paper and close the cover. If the code still appears, contact your dealer.
10010	Cover open	Close the cover. If the code still appears, contact your dealer.
10099	Lock error	1. Turn off your S900 unit. 2. Find the lock switch underneath the machine and unlock the machine. 3. Restart your S900 unit. If the code still appears, contact your dealer.
20002	Connect printer error	Please check IEEE 1394 cable.
20003	Printer error	Please check printer. If the code still appears, contact your dealer.

Info code	Meaning	Action
20004	Printer Offline	Please check printer.
20011 ~ 20019	Copy Job Error	Reset scanner, and then try again. If the code still appears, contact your dealer.
20021 ~ 20029	1394 Protocol Error	Reset scanner and printer, and then try again. If the code still appears, contact your dealer.
20031 ~ 20039	Printer Profile Error	Check printer profile version and printer model name. Update printer profile. If the code still appears, contact your dealer.
20041 ~ 20049	Scanner error	Please check scanner or reset scanner. If the code still appears, contact your dealer.

Note: Please turn on your scanner after turning on the printer and confirming the "ON-LINE" status display in the LCD of the Printer.

5.3 CLEARING THE PAPER JAM

1. Press the push button on the ADF front cover and open the cover to the left.
2. Gently pull out the jammed paper.
3. Close the ADF cover.



ADF Push Button

Document

6. PREVENTIVE MAINTENANCE

6.1 Cleaning

This S900 is designed to be free of maintenance. However, it is suggested to perform preventative maintenance in the shorter term either every 6 months or every 60,000 sheets scanning to ensure a consistently optimum performance.

6.1 CLEANING THE DOCUMENT GLASS

There are times when the document cover and document glass is contaminated with ink, toner particles or paper coatings. In this case, the S900 will have to be cleaned frequently to ensure the best performance.

Follow the cleaning procedure as below:

(1) Open the document cover.

(2) Dip a clean cloth with non-corrosion solvent like alcohol (purity above 99.5%).

(3) Wipe the document cover and the document glass gently as shown the following figure. Continue until the entire document cover and document glass is cleaned and observed that no cleanser remains on the surface.

(4) Close the document cover. Your S900 is now ready for use.

7. DISASSEMBLY

7.1 Service Tools
7.2 Lubricants
7.3 Procedure for Disassembly and Reassembly

7.1 SERVICE TOOLS

Table 7.1 describes the maintenance tools necessary for the maintenance of this equipment.

No.	Name	Description
1	Minus screwdriver	Idler pulley module screw
2	Philips screwdriver (magnetic)	Nominal No.2 M3, M4
3	Oil	Shell "Terrace Oil 46"
4	Grease	Shell "Alvania Grease No.2"
5	Alcohol (Isopropyl 91% >)	Cleaning
6	Digital voltmeter	With 0.01 V range
7	Oscilloscope	100 MHz or more with external sweep
8	Blower	Cleaning

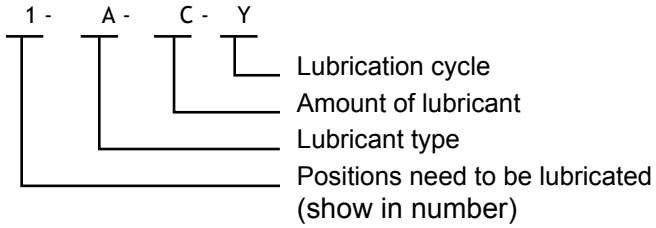
Table 8.1 Maintenance tools

7.2 LUBRICANTS

This section describes the items to check and the places to lubricate when maintenance parts are replaced.

7.2.1 MECHANICAL UNIT LUBRICATION

This lubrication method:

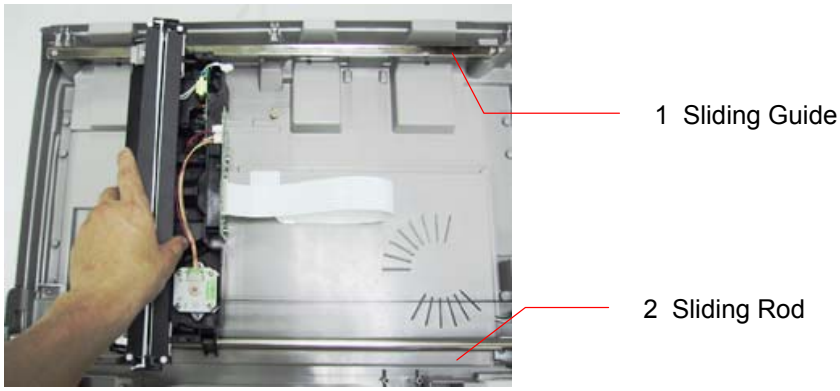


1. Positions need to be lubricated:
   The positions need to be lubricated is indicated in numbers.
2. Lubricant type:
   A: Shell Alvania Grease No. 2
   B: Shell Terrace Oil 46
3. Amount of lubricant:
   C: Coat thinly uniformly
4. Lubrication cycle:
   Y: Every year

Table 8.2 below shows the position to be lubricated.

Lubrication Position	Lubricant Type	Lubricant Amount	Lubrication Cycle	Lubrication Position
1	B	C	Y	Sliding rod
2	A	C	Y	Sliding guide

Table 8.2



Positions need to be lubricated

7.3 PROCEDURE FOR DISASSEMBLY AND REASSEMBLY

7.3.1 NOTES ON DISASSEMBLY

(1) Clean the disassembly and assembly location.

(2) Disconnect the power cable and remove the DC plug from the outlet before disassembly and assembly.

(3) Follow the disassembly and assembly procedures. Never loosen the screws of parts that must not be disassembled.

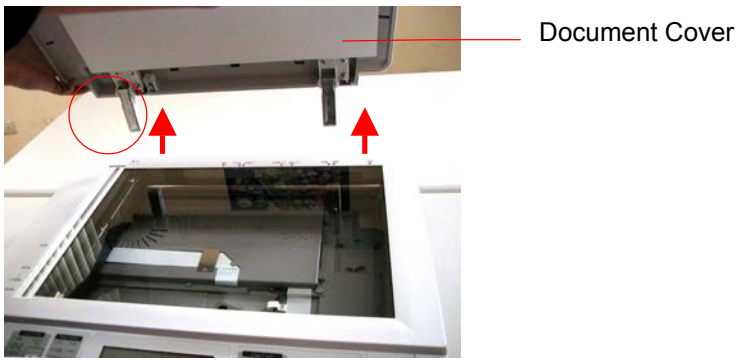
(4) Store the disassembled parts in a clean place to avoid loss.

(5) After replacement, check the contacts and spare part mounting.

(6) Assemble the parts in reverse order of disassembly procedure.

7.3.2 DOCUMENT COVER

(1). As shown in the figure below, lift the document cover to remove the studs from the hinge holes. The studs are loosely attached to the hinge holes in the purpose to cover your original when it is a few inches high.



Document cover removal

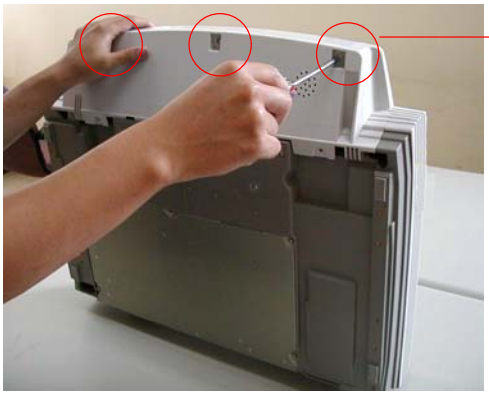
- Note:

Before reinstalling the document cover, clean the document cover first.

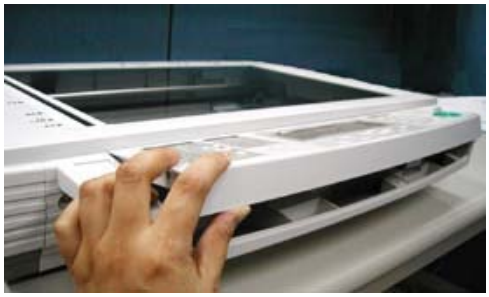
7.3.3 CONTROL PANEL

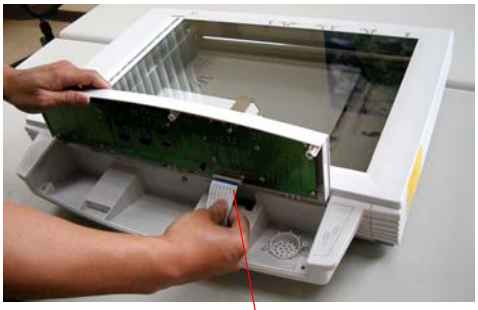
(1) Remove the document cover as described in the preceding section 7.3.2.

(2) Raise the main unit as shown below. Remove the three fixing screw of the control panel.

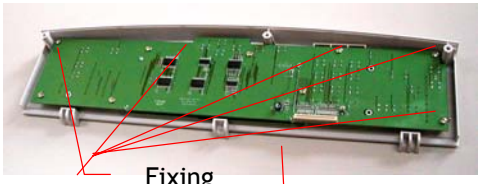


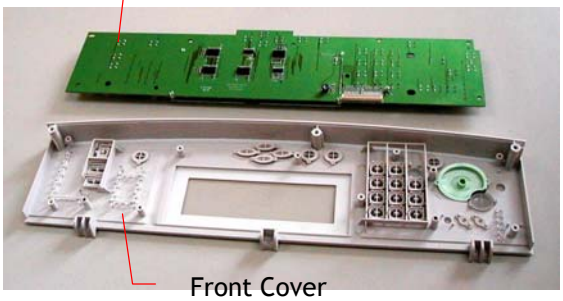
(3) Lay down the main unit. Loosen the Control Panel PCBA Assembly by lifting it up. Disconnect the flat cable.





(4) Remove the fixing screws and the front cover.



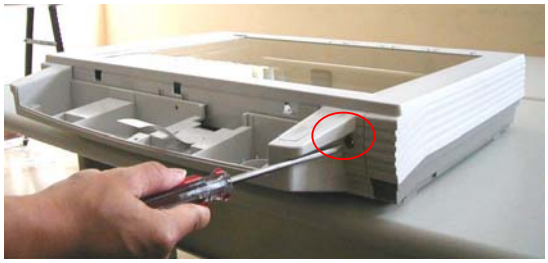


7.3.4 UPPER HOUSING

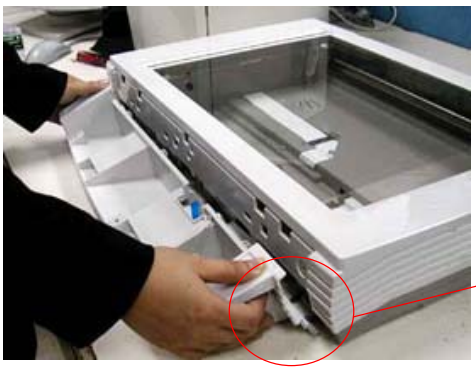
(1) Remove document cover as described in the subsection 7.3.2.

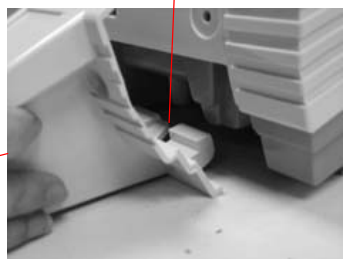
(2) Remove control panel PCBA as described in subsection 7.3.3.

(3) Remove the fixing screws of the control panel.

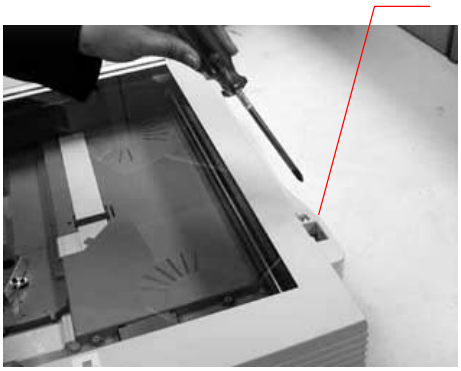


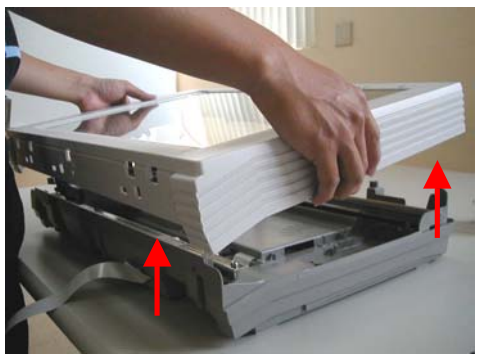
(4) Remove the bottom housing of the control panel by detaching the hook.





(5) Loosen the fixing screws at the rear and lift the upper housing gently to remove it.





- Note:

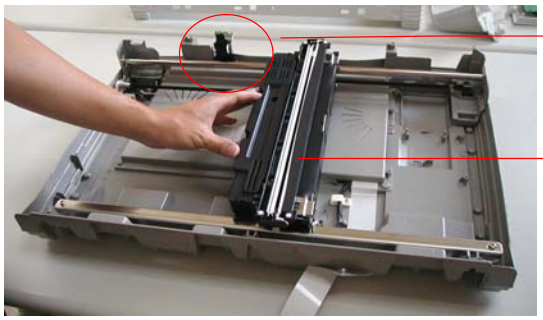
1. Before reinstalling the upper housing, clean the glass surface.
2. Please keep the fixing screws and follow the reverse order to reassembly the upper housing.

7.3.5 DOCUMENT COVER SENSOR PCBA

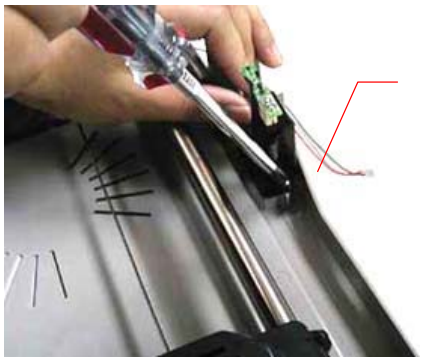
(1) Remove document cover as described in the subsection 7.3.2.

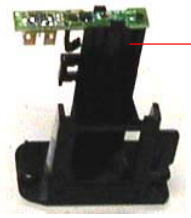
(2) Remove upper housing as described in preceding section 7.3.4.

(3) Move the optical chassis to the center as illustrated below.



(4) Loosen the fixing screw to remove the paper sensor PCBA.

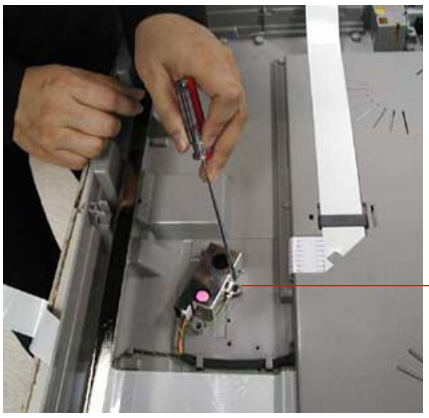




7.3.6 PAPER SENSOR PCBA

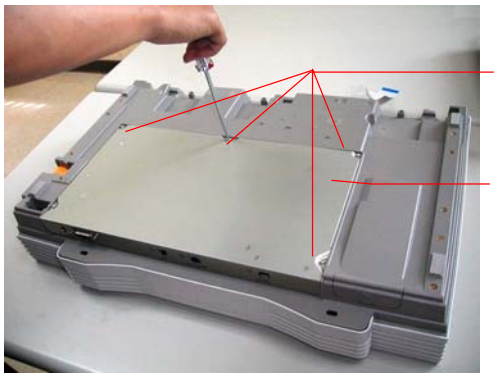
(1) Remove upper housing as described in preceding section 7.3.4.

(2) Loosen the fixing screw to remove the paper sensor PCBA.



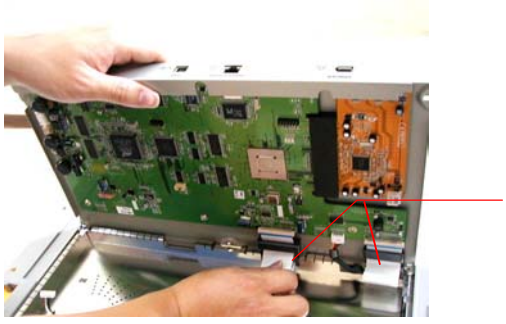
7.3.7 MAIN CONTROL BOARD ASSEMBLY

(1) Turn the machine over to reveal the bottom. Loosen the fixing screws of the metal cover from the bottom housing.



(2) Raise the main board to disconnect the cables.

(3) Loosen all flat cables.

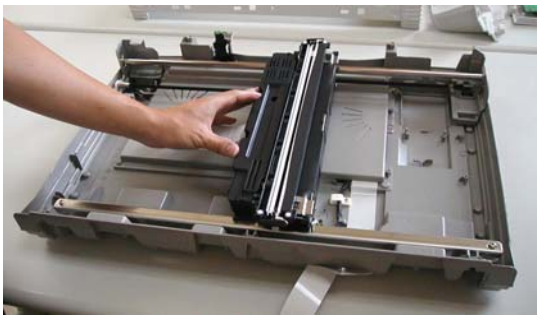


(4) Loosen the fixing screws of the SCSI connector with proper tool.

7.3.8 MOTOR BELT

(1) Remove upper housing. (See preceding section 7.3.4)

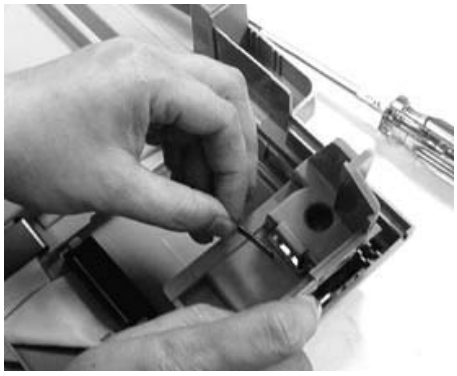
(2) Move the optical chassis to the center as illustrated below.



(3) Loosen the fixing screw of the belt to detach the left end of the belt.

Fixing Screw

(4) Remove the other end of the belt from the hook.



- **Note**

During the reinstalling process, be sure to keep the belt in straight to keep the tension.

7.3.9 OPTICAL CHASSIS

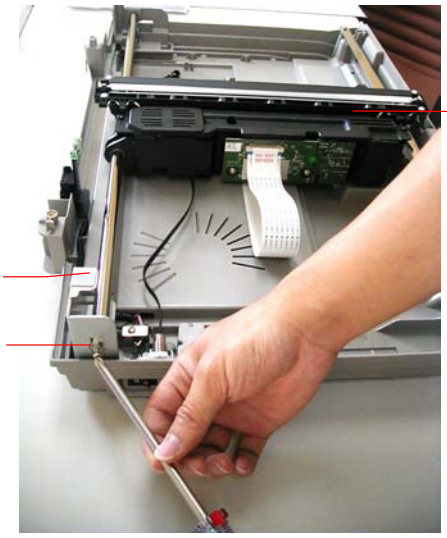
DISASSEMBLING PROCEDURE

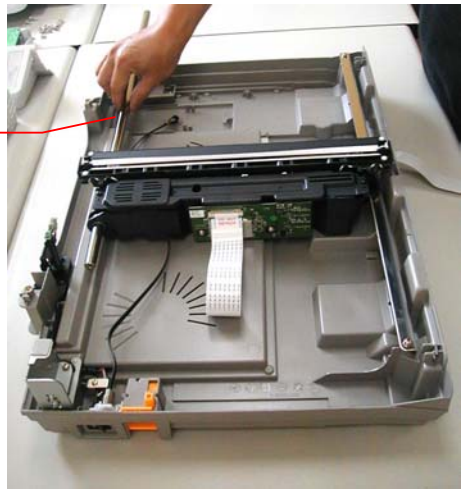
(1) Remove the upper housing. (See section 7.3.4)

(2) Remove the main control PCBA. (See section 7.3.5)

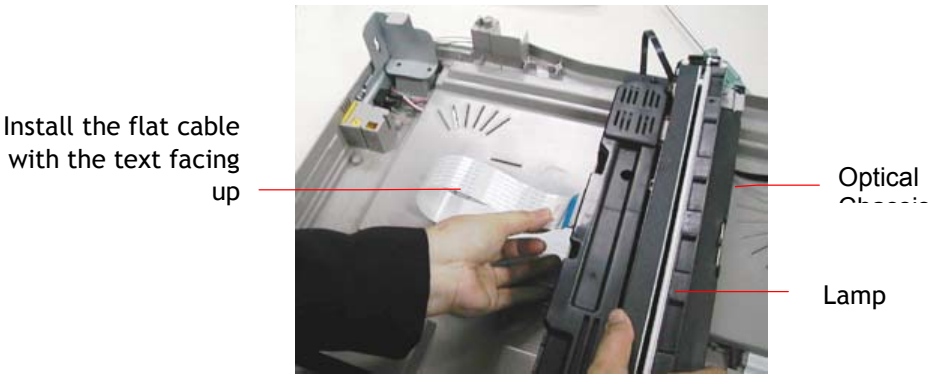
(3) Remove the motor belt. (See section 7.3.6)

(4) Remove the fixing screws of the sliding rod then pull it out gently as illustrated below.

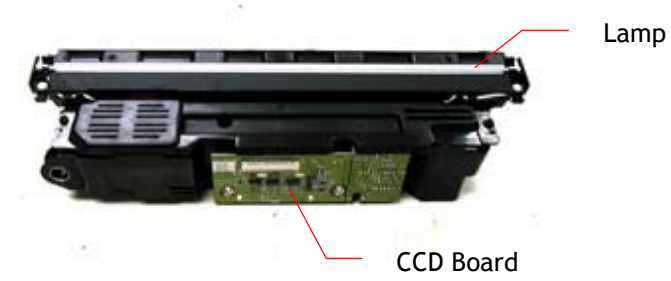




(5) Remove the flat cable of the optical chassis as illustrated below.



(6) Hold the right side of the optical chassis to remove it gently from the machine. (Be aware not to touch the CCD board as well as the lamp in the optical chassis.)



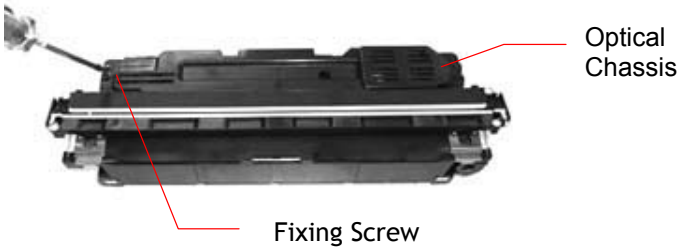
- ***Note:***

1. During reinstalling the optical chassis, be aware not to touch the chips of the CCD board as well as the lamp in the optical chassis.
2. During reinstalling the CCD flat cable, be sure the text of the flat cable should face up as illustrated below.
3. Any unauthorized action may cause unexpected result and will therefore not be responsible by the manufacturer.

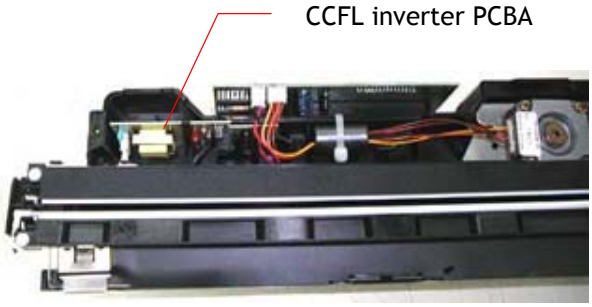
7.3.10 CCFL INVERTER PCBA

(1) Remove the optical chassis. (See preceding section 7.3.7).

(2) Remove the fixing screw of the cover.



(3) Disconnect the CCFL inverter cable and CCFL inverter PCBA cable.



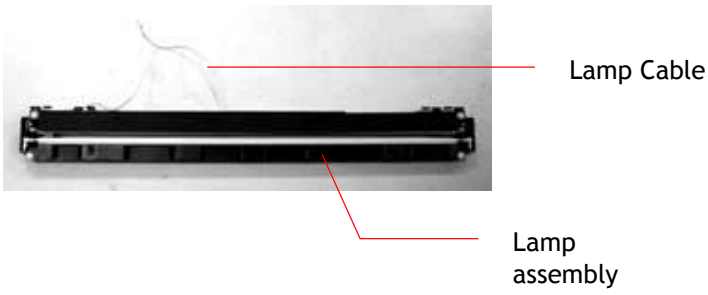
CCFC Inverter PCBA removal

7.3.11 LAMP ASSEMBLY

(1) Remove the optical chassis. (See section 7.3.7)

(2) Disconnect all cables of the lamp assembly.

(3) Detach the lamp from the lamp holder.

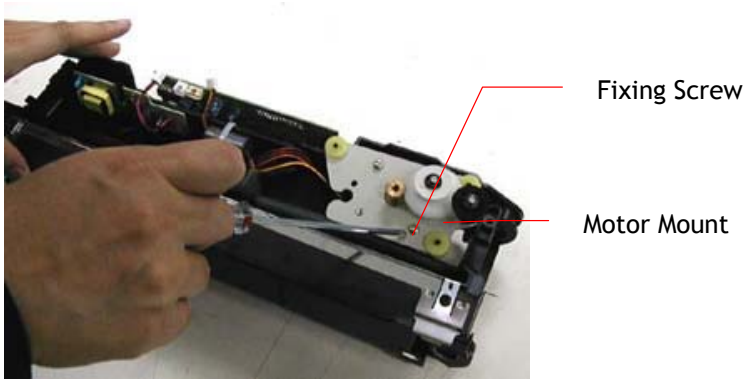


7.3.12 MOTOR UNIT

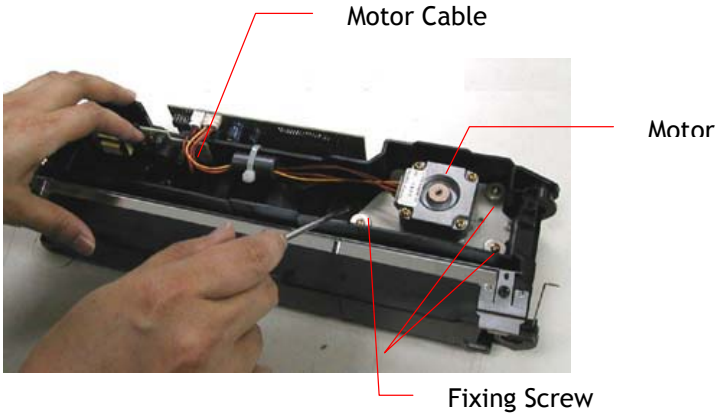
(1) Remove the optical chassis and the CCFL inverter PCBA. (See section 7.3.7 and 7.3.8)

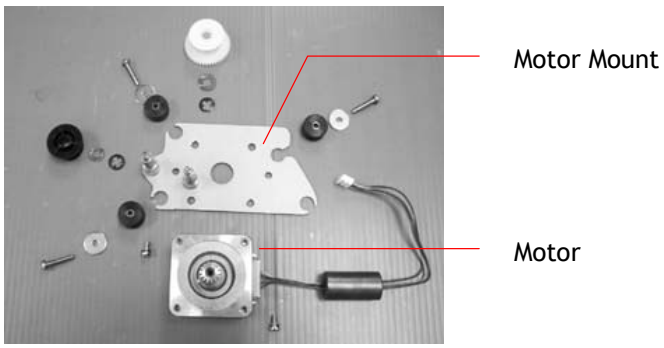
(2) Remove the lamp assembly. (See preceding section 7.3.9)

(3) Loosen the fixing screw to remove the motor mount as shown in the figure below.



(4) Loosen the fixing screw and disconnect the motor cable to remove the motor.



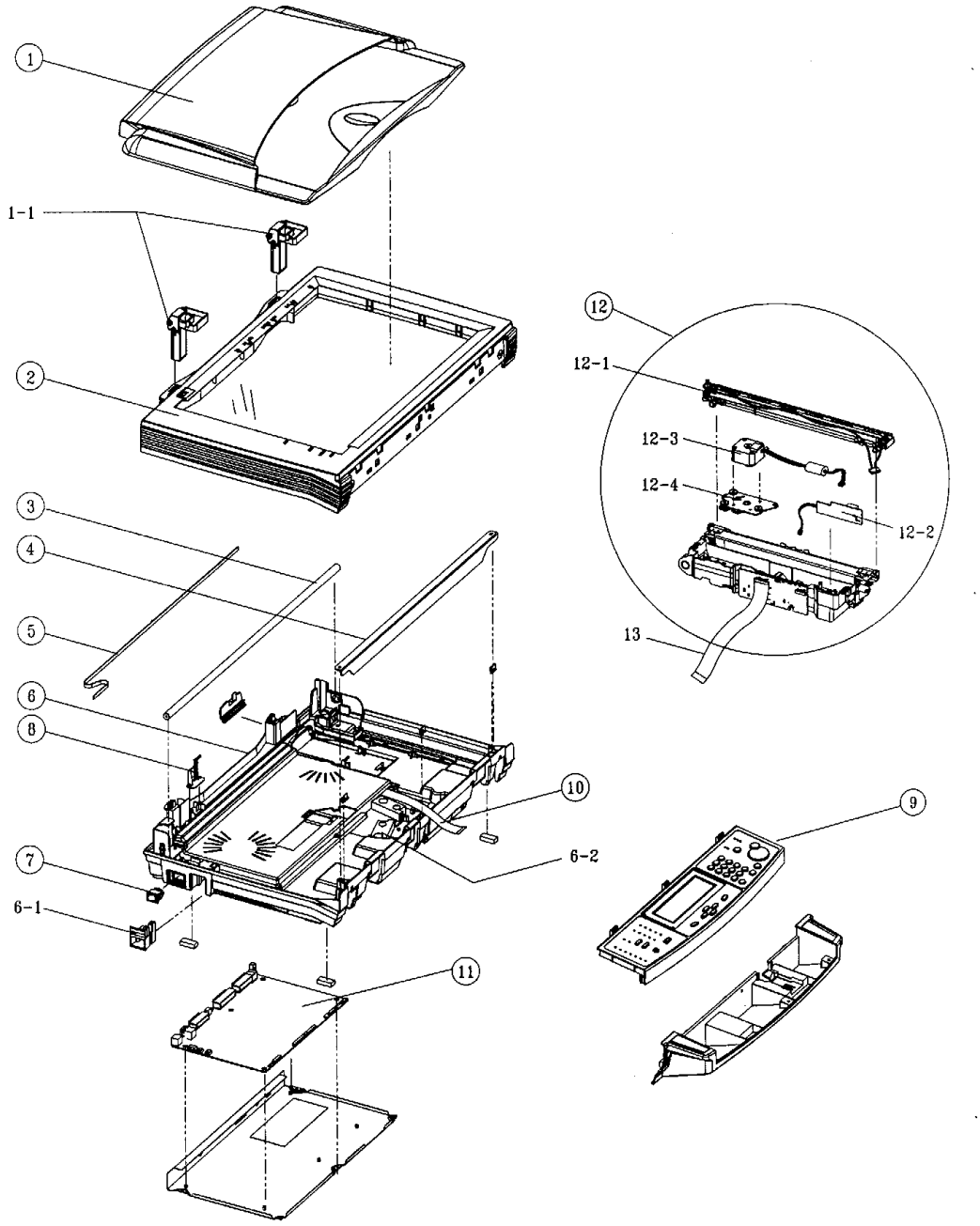


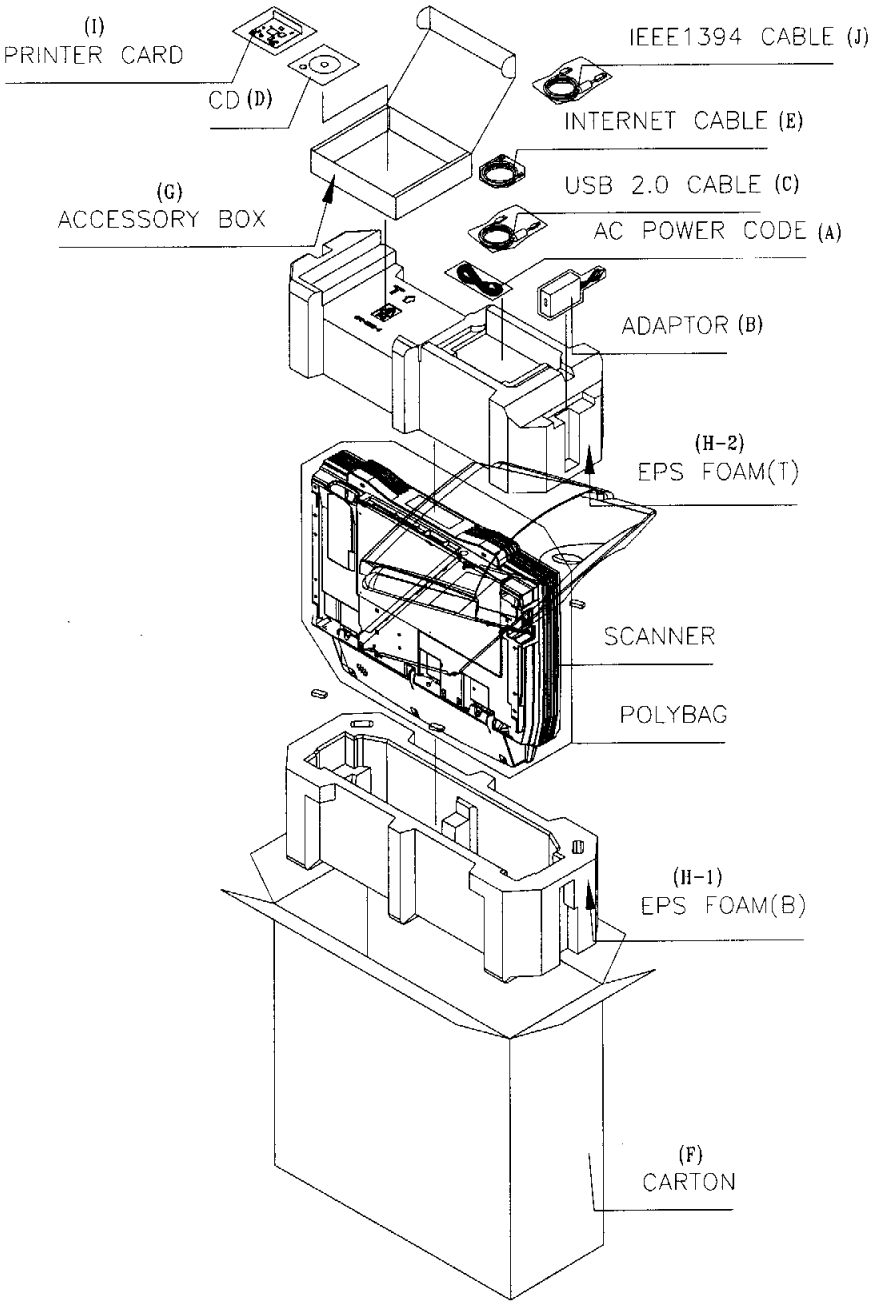
8. PARTS

8.1 Spare Parts List

8.1 SPARE PARTS LIST

Please find the following spare parts list and its illustration.


1
1-1
2
3
4
5
6
8
7
6-1
10
6-2
11
12
12-1
12-3
12-4
12-2
13
9


(I)
PRINTER CARD
CD (D)
IEEE1394 CABLE (J)
INTERNET CABLE (E)
USB 2.0 CABLE (C)
AC POWER CODE (A)
(G)
ACCESSORY BOX
ADAPTOR (B)
(H-2)
EPS FOAM(T)
SCANNER
POLYBAG
(H-1)
EPS FOAM(B)
(F)
CARTON

ITEM	P/N	REV.	DESCRIPTION	ORDER Q'TY
1	002-1294-0-SP	100	S-PARTS: ASS'Y, DOCUMENT COVER	1
1-1	002-1274-0-SP	100	S-PARTS: ASS'Y, HINGE	1
2	002-1359-0-SP	100	S-PARTS: ASS'Y, UPPER HOUSING, A3 SIZE	1
3	056-0048-0-SP	100	S-PARTS: SLIDING ROD, 12x553,SUM1214, Ni 6u	1
4	054-0162-0-SP	100	S-PARTS: SLIDING FRAME, 621x12x28x1.6/NI 6u	1
5	002-1497-0-SP	100	S-PARTS: BELT, @V5000 SERIES	1
6	003-5501-0-SP	010	S-PARTS: ASS'Y, BOTTOM HOUSING, A3, OKI S900	1
6-1	051-0464-0-SP	100	S-PARTS: LOCK CHASSIS, 45x30x30 POM	1
6-2	003-5416-0-SP	100	S-PARTS: ASS'Y, PAPER SENSOR, DS8000C	1
7	003-0328-0-SP	100	S-PARTS: POWER SWITH/SOCKET W/CORE, PITCH2.5, L=200	1
8	003-5400-0-SP	200	S-PARTS: ASS'Y, SENSON BOARD, SB11, @V5000 SERIES	1
9-1	002-1868-0-SP	010	S-PARTS: ASS'Y, CONTROL PANEL, 428x104x31, CEE/UK, A3, OKI S900	1
9-2	003-5503-0-SP	010	S-PARTS: ASS'Y, CONTROL PANEL, 428x104x31, US, A3, OKI S900	1
10	104-0416-0-SP	100	S-PARTS: FFC CABLE, 32P, P=1mm, L=400mm	1
11-1	002-1871-0-SP	010	S-PARTS: ASS'Y, MAIN BOARD, A3, CEE/UK, OKI S900	1
11-2	003-5504-0-SP	010	S-PARTS: ASS'Y, MAIN BOARD, A3, US, OKI S900	1
12	002-1268-0-SP	100	S-PARTS: ASS'Y, OPTICAL, AV8000S	1
12-1	002-1269-0-SP	100	S-PARTS: ASS'Y, LAMP, AV8000S	1
12-2	003-0321-0-SP	100	S-PARTS: INVERTER, Vdc=24V, Ilamp=7mA, 56KHz, AV8000S	1
12-3	002-1614-0-SP	100	S-PARTS: ASS'Y, MOTOR: 600DPI, AS8000S	1
12-4	003-5502-0-SP	010	S-PARTS: ASS'Y, MOTOR MOUNT, A3, OKI S900	1
13	104-0206-0-SP	100	S-PARTS: FFC CABLE, 32P, P=1.0mm, L=515mm	1

OTHERS				
A-1	104-0011-0-SP	100	S-PARTS: AC POWER CORD: 125V/10A, 1.8m(UL/CSA)	1
A-2	104-0012-0-SP	100	S-PARTS: POWER CORD, 10A/250V, 1.8m(CEE)	1
A-3	104-0013-0-SP	100	S-PARTS: AC POWER CORD: 10A/250V, 1.8m(BSI) UK	1
A-4	104-0022-0-SP	100	S-PARTS: AC POWER CORD: 10A/250V, 1.8m(SAA), AUS	1
B	003-0305-0-SP	100	S-PARTS: ADAPTOR: 24V/2.0A, 100~240V/50~60Hz	1
C	104-0285-0-SP	100	S-PARTS: USB 2.0 CABLE: SHIELDING, L=1.83m, 28AWG,W/CORE, LOW Pb/ Cd, PANTONE 432C	1
D	006-0237-0	010	CD: OKI S900	1
E	104-0260-0-SP	010	S-PARTS: CROSS CABLE: INTERNET CABLE, 8P 4C, 1.8M	1
F	073-1099-0	010	CARTON: 710x280x680, OKI S900	1
G	073-0975-0	010	ACCESSARY BOX: 245x220x60,B/F,DS8000C	1
H-1	072-0249-0	100	EPS FOAM, B: 690x258x150, @V5000	1
H-2	072-0250-0	100	EPS FOAM, T: 690x258x260, @V5000	1
I	003-0446-0-SP	100	S-PARTS: PRINTER CARD (1394), OKI S900	1
J	104-0417-0-SP	010	S-PARTS: IEEE1394 CABLE: 6P(M)/6P(M) PLUG BLACK MOLDING TYPE, L=1800mm, BLACK,S02-014,	1

Table 8.1 Spare Parts for S900